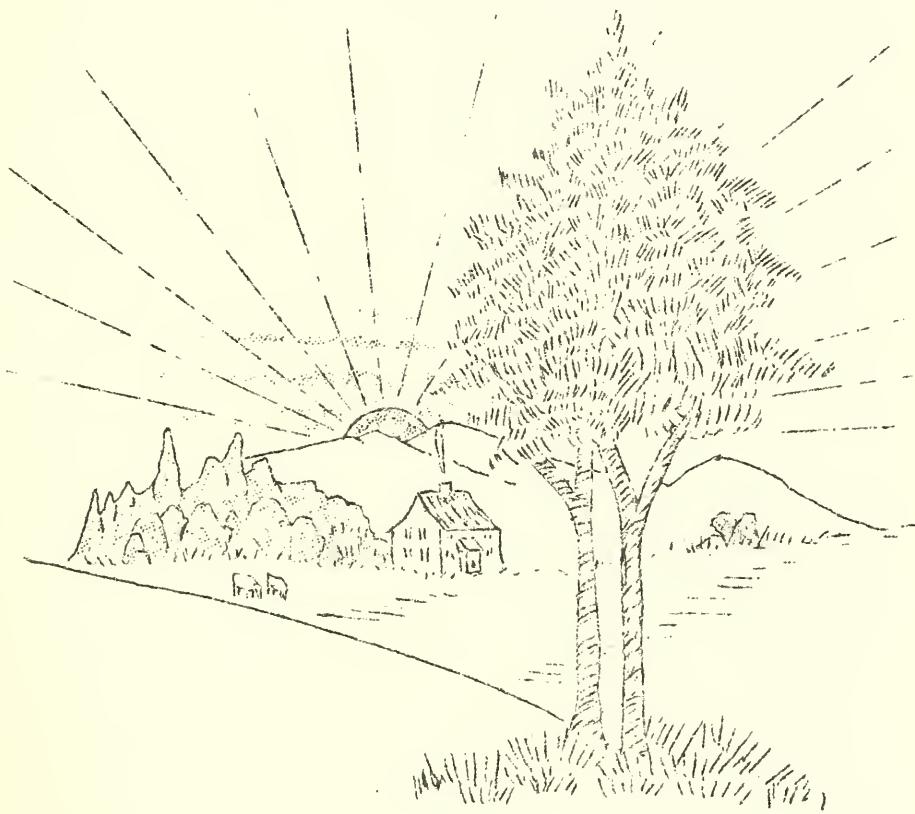
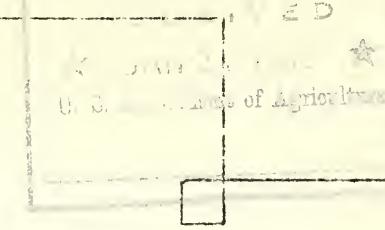


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THE REEDY CREEK FARM COOPERATOR



VOLUME III

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

THE REEDY CREEK COOPERATOR

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A WORD OF EXPLANATION

Due to a re-organization of the Reedy Creek staff, wherein our number of employees were reduced to form the nucleus of a new State Project, our official project paper "The Farm Cooperator" has not made its appearance for some time. Obviously, it was impossible to get everything done. On the other hand, it is exceptionally pleasing to know that we were "missed", as a number of Cooperators and State Extension Agents have written in asking for the paper again. We are glad to be of service in any way possible.

Our work on new farms this spring will be confined to Main Reedy Creek drainage only. In other words, approximately one-third of the original project is set aside for the writing of Agreements on new farms. This represents approximately 56,000 acres. Work will be completed on all old Agreements, however, and assistance given all Cooperators, in the way of information and advice. It is the plan to follow up all our work just as closely as possible.

So with this, our first issue in the New Year, we express appreciation of your cooperation and extend you greetings. The Soil Conservation Service, through its Land Planning Program, is attempting to conserve moisture and control erosion. Even as one is dependent upon the other, so is our work contingent upon the help of each individual.

-- Ivan C. Owens,
Project Manager.

Fourth - The addition of nitrogen to phosphorus and lime increases coloration and growth while if added to lime alone it is doubtful if it would have any effect.

Fifth - Plots treated with nitrogen, phosphorus, potash, and lime show very little difference from the nitrogen, phosphorus and lime.

As regards winter cover, those plots receiving a complete fertilizer have a better growth of plants than the lime or check plots. Those receiving phosphorus and lime, or nitrogen, phosphorus and lime, do not quite approach the plots having a complete fertilizer of nitrogen, phosphorus, potash, and lime, but are in considerably better shape than the check or lime plots.

This better cover not only offers more protection to the soil over winter, but gives it a better and a quicker start in the spring.

Not only does it give a better cover and quicker start, but also produces stronger plants and enables them to store up more food materials with which to combat grazing and production of new shoots.

Additional studies at W. P. Smith's pasture plots and treated areas on different farms may throw more light on this study.

* * * * *

FARM and HOME WEEK

The Annual Farm and Home Week,
Sponsored by the College of Agriculture
of the West Virginia University,
will be Held January 13th to 16th at Morgantown

As in other years the programs for both men and women are full of information to help you solve your farm and home problems, with members of the agricultural college staff in charge of the lectures, demonstrations, and contests. In addition, out-of-state authorities will address the visitors on the subjects of draft-horse breeding and feeding, soil conservation, game management, parent education, and farm family living. A representative of the American Farm Bureau Federation, Mrs. Charles W. Sowell, will speak on farm organization.

On Monday evening, the opening night, Dr. C. S. Bouchor, West Virginia University's new president, will address the gathering with a modern message. He is known as a good speaker and will be worth hearing. ALL ARE INVITED.

stake down sod strips until the roots take hold.

Diversion ditches require maintenance to the extent that they must be cleaned out occasionally and that wherever "breaks" appear, these must immediately be repaired. If the ditch outlet starts to "cut", it should be rocked. A coarse, rank growth of weeds within the ditch channel is to be guarded against. It is well to bear in mind that diversion ditch outlets properly constructed and maintained will discharge water over a broad, well sodded area rather than confine it to a narrow channel where cutting is generally sure to follow.

The repair of brush mats involves the use of materials ordinarily available on the farm. Brush, straw, leaves, etc., may be packed and tied into places requiring attention. Brush should be laid so that the tops point uphill. By so placing it, more silt is held.

Probably the greatest amount of maintenance should be directed toward structures placed to prevent active stream bank erosion. These structures are subjected to continuous and severe buffeting and will, therefore, deteriorate rapidly. Repairs on such structures must be well planned and carried out if they are to last. In all maintenance work, it should be borne in mind that the ultimate objective is to check the flow of run-off water so that an effective cover of vegetation can be established. If there is doubt as to what steps must be taken to repair a faulty structure, please feel free to write us, or better yet, come up to our office and see us. We are only too glad to discuss your problems with you.

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COOPERATOR'S COMMENTS SOLICITED

In future Roedy Creek Farm Cooperators, it is our hope to publish comments or questions sent in by Cooperators. If you have anything of general interest, please address it to the Soil Conservation Service, Spencer, West Virginia.

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The human is the only animal that can be skinned twice.

ALFALFA DATA

In August of 1934 some fifty farm Cooperators of the Soil Conservation Service in the Reedy Creek Project area, planted Alfalfa. During the past spring and summer, yield records were taken on practically all of these plots for each of the three cuttings. Cutting dates were as follows:

- 1st. cutting, May 28th to June 11th
- 2nd. cutting, July 12th to July 20th
- 3rd. cutting, September 3rd to September 10th

In securing yield records, five square yard samples were harvested at random, on each Alfalfa plot just prior to mowing by the farmer. These samples were allowed to air dry in the barn and finally weighed. Acre yields were calculated from these figures. The following table is a summary of the yield records, showing the average yield for each of the five important soil types within the project area.

<u>Soil Type</u>	<u>1st. Cutting</u>	<u>2nd. Cutting</u>	<u>3rd. Cutting</u>	<u>Total</u>
Popo	3,366	2,312	2,280	7,958
Upshur	2,946	2,357	2,536	7,839
Meigs	3,026	2,206	2,270	7,502
Monongahela	3,208	2,165	2,086	7,459
Dekalb	<u>2,476</u>	<u>1,755</u>	<u>1,966</u>	<u>6,197</u>
Average	3,044	2,159	2,228	7,391

As is ordinarily expected, the first cutting is considerably higher in yield than subsequent cuttings. The second cutting is also usually higher than the third cutting, but due to poor growing conditions after the first cutting and an unusually heavy crop of weeds in the third cutting, caused the third cutting to be higher than the second cutting. The average total yield for the five different soil types of 7,391 pounds is considerably higher than the average Alfalfa yield for the state.

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REPRINT-SOIL CONSERVATION

Erosion must be controlled before soil fertility can be increased.

More than 40 percent of the soil wealth is contained in the top six inches of soil.

Erosion has caused streams to dry up, resulting in the disappearance of fish, animal, and bird life.

Retiring from cultivation all badly eroded submarginal lands and planting them to either grass or timber is an effective means of securing best land utilization.

The Romans noted the folly of growing the same crops on the same land for several consecutive years.

FENCING WOODLAND-A PROFITABLE INVESTMENT

There is probably no investment which will reap more profit to the land owner than the protection of woodland from livestock.

Cattle and sheep tramping and grazing in woodland soon ruin the vegetative cover, kill out the young seedlings on which the crops of the future depend, and over a period of years start erosion of the fertile top-soil, thereby decreasing the annual growth of those trees which are not killed. Furthermore constant tramping of farm animals so firms and hardens the soil that its ability to absorb moisture and prevent run-off is considerably decreased. Since acorns, buckeyes, and the leaves of cherry are detrimental to cattle, even to the extent of killing them in some cases, it is highly desirable that they be kept out of woodland at all times. Then too, cattle grazing in pasture where they have access to woods will lay in them a good part of the day leaving manure which rightfully belongs on the pasture land. One ton of manure contains the same amount of plant food as \$2.00 worth of commercial fertilizer plus valuable organic matter or humus, making a total value of \$4.00 per ton. The effect of this on woodland is small, on pasture tremendous.

A well balanced farm must have pasture and must have woodland. Fencing of woodlots will save woodland from destruction, prevent cattle from eating nuts and poisonous vegetation, improve pasture, and assist in the national program of preventing soil erosion and excessive run-off of water. Is this not a sound investment?

* * * * *

In a recent issue of The Valley News, a publication published in the interest of social and economical development of the Upper Monongahela Valley, it was mentioned that it is possible the Baltimore and Ohio Railroad demonstration train special services would be revised this year.

Since Soil Conservation is recognized as one of the chief problems confronting the farmers of the state, in all probability a soil conservation special would be included in the service.

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All life is based on the soil; lets save it for the future.

GROWING BLACK LOCUSTS IN WEST VIRGINIA

The black or yellow locust is a native tree and generally grown unusually well in West Virginia. It makes rapid growth on good soils, grows reasonably fast on poor and dry soils, is easily propagated and produces very durable wood. It is a legume and by virtue of its root nodules is a natural soil enricher. Its strong spreading root system and rapid development gives it first place among trees in ability to control erosion in gullies and on steep hillsides. It also has a very high position among trees for conserving soil and water. Its very durable wood makes it widely sought and used for fence posts, mine timber, stakes, etc. These facts have brought the black locust into great demand, as a soil protection and erosion control plant.

Young locust trees for planting may be obtained by the following methods:

- (1) Growing seedlings at home.
- (2) Digging young trees from locust.
- (3) Digging up wild sprouts.

Growing seedlings at home is probably the most economical way of obtaining locust trees for planting. The following information is suggested for this method:

The locust bears its seed in small pods, ripening late in October and November, approximately one bushel of these pods are required to produce one pound of cleaned seed, a pound of cleaned locust seed contains about 26,000 seed. As a rule practically all of the seed are fertile. Because of the hard outer seed coat it has been common practice before sowing to treat the seed with hot water, as quicker germination has seemed to result. They might be put into hot water (not boiling, but near 160° F.) for a short time, then allowed to soak for several hours in warm water. Well pulverized garden soil is recommended for seed beds. The seed should be sown in May or June, in drills spaced about 18 inches apart. The seed should be sown at the rate of about 2½ seed per foot of drill and covered about $\frac{1}{2}$ inch deep, with soil or sand and packed slightly to prevent the soil from drying out. The seed beds should be inoculated previous to sowing with soil from a locust grove as the seed is planted. The density of trees should not exceed twelve per foot in drill. In case of a greater density it is desirable to remove a sufficient number of the trees after they have reached about 6" in height to give the desired density of twelve per foot. The trees should be kept clean of weeds and the soil well cultivated. By fall the trees should have reached a height of from two to three feet.

The trees may be left in drill during the winter and lifted in the early spring, which is the best time to plant them.

Further information pertaining to this subject may be obtained from this office.

KOREAN LESPEDEZA

Last year the Soil Conservation Service distributed to Cooperating farmers approximately 21,000 pounds of Korean lespe- deza seed. In addition to this the Cooperating farmers and their neighbors purchased large amounts of this seed from local dealers. The results from these seedings have been exceedingly satisfactory. Farmers have been well pleased with their good yields of hay, which, in most cases, was harvested in excellent condition.

Korean lespedeza is probably of more importance in this area for pasture than for hay. Being a legume, Korean lespedeza can be classed as a soil builder. It will grow on poor acid soil, but for hay crops, rich moist soils are required for highest yields. Decided gains are also made from the use of lime and fertilizer. The exact amount of lime depends upon the acidity of the soil. Fertilizer recommendations depends upon soil, but, under ordinary conditions, 300 to 350 pounds of super-phosphate per acre for loam soils and the same amount of 0-14-6 for sandy soils will give satisfactory results.

The securing of seed should be taken care of in time to insure securing high quality seed. Special care should be taken to secure seed free from dodder and other noxious weeds. All Korean lespedeza seed used this year should be of 1955 produc- tion as it loses its power of germination rapidly. The rate of application depends upon what it will be used for. When seeding alone for meadow, use 20 to 30 pounds of seed per acre. When seeding in mixtures for meadow or pasture, use 5 to 10 pounds per acre. After the first seeding, Korean lespedeza will re- seed itself if given an opportunity. On pasture it is impossible to graze so closely as to prevent reseeding. Its habit of send- ing out lateral branches, near the ground, takes care of this seed production in pastures. It is a little more difficult to secure a reseeding when used for meadow. However, it can be accomplished by cutting late enough for some seed to shatter or by cutting early enough for the second growth to mature seed. The last named method is preferable because of the superior quality of hay ob- tained from the earlier cutting. Inoculating is recommended unless lespedeza has grown in the field previously. This can be accom- plished by the use of commercial inoculant or by the use of soil from a field where lespedeza has grown satisfactorily.

Lespedeza can be used in a rotation in the place of any of the common annual legumes. Seeding should be done in early spring from February 15th to April 1st. The seeding should be done early enough, if possible, to have the seed covered by freez- ing and thawing. If seeded later the seed should be covered by a light harrowing.

Harvesting is recommended when plant has reached its maxi- mum growth and before leaves begin to fall. If harvested at this time and not cut too closely, enough seed will be produced for re- seeding. The hay should be stored inside a building to prevent leaching and waste.

Korean lespedeza hay is not as valuable ton for ton as Alfalfa hay, nor is the yield nearly as great. It is not recommended on soils where Alfalfa or Red clover can be successfully grown. While Korean lespedeza does not yield as high per acre as Red clover, it is almost as good in feeding value per ton. In the cropping plan it is probably best suited in those fields where crops of equal or better feeding value, such as Alfalfa or the clovers, cannot be successfully grown. Its extensive root system and its ability to grow on poor, eroded soils and in gullies, makes it very valuable in erosion control.

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DALLAS GRASS

One of the plants being tried out in the area for erosion control and economic worth is Dallas grass. This plant is a native of South America, but was introduced into this country prior to 1880. It now occurs abundantly from Florida north to North Carolina and west to Texas. Farther north it is considered to be too tender. Dallas grass is a perennial and, under favorable pasture conditions, will last indefinitely. It can also be used for hay but, owing to its tendency to lodge, can best be used as pasture. In the south it makes excellent winter pasture unless injured by severe freezing.

A large amount of the seed used in this country comes from Australia. Seed is produced in the southern part of this country, but, since the flowers are commonly affected with a fungus, the seed is very poor. Often only 5-10 percent of southern produced seed germinates. Australian hand-picked seed usually germinates less than 50 percent.

The Dallas grass grown here the past year was from Australian produced seed. A plot 10 by 16 feet was planted in the Nursery. An excellent growth was made, but no seed matured. A yield of hay was obtained equivalent to 5,900 pounds of dry hay per acre, or almost three tons.

This fall the sod was removed from the Nursery plot to one of Mr. Harry Holswado's pastures. During this winter and next season, it will be observed for its ability to withstand freezing and its suitability in this area as a pasture grass.

Due to the fact that this is the first attempt that we know of to grow Dallas grass in this area, we are not recommending it. However, there is a chance that it may, in time, prove of practical value on some of our soils.

FARMERS OF 40 CENTURIES
SPEAK TO THE FARMERS OF AMERICA
By Mrs. Inez Marks Lowdermilk

Doubtless many people think of China in terms of famines, floods and low standards of living. The 1933 Census gives China a population of 492,000,000 people -- almost a half billion, sprawled half way across Asia, where they have lived since the dawn of history. Almost 350,000,000 are rural peoples.

China's first settlers found, as did our pioneers, a land comparable in size to the United States and equally well endowed with forested mountains, rich valleys and other natural resources. China dates the periods of her "Golden Age" from 200 B. C. to 1200 A. D., when there was abundance for all and every one was honest. Then why this poverty and decline?

One evidence greets the traveler on the ocean, a hundred miles before land is sighted, in the form of a great yellow pathway coming out of the mouth of the Yangtse River as it pours forth rich silt-laden waters from the farm and mountain lands of central China. The Yellow Sea is so named because for centuries the Yellow River has dumped billions of tons of soil from the loess lands and denuded watersheds of north China, until the Sea is yellow with China's lost productivity and a portion of her population in the hinterland lives on one or two meals a day.

The appalling thought that should arouse every thinking person in the United States is that we have exploited and are destroying our natural resources at a rate never before known in the history of the world. It took China several thousand years to exploit and destroy land resources that we have done in from fifty to two hundred years.

What is this destructive force which has already totally destroyed here in the United States during our few years of exploitation, over 51 million acres of our good farm lands and is in the process of destroying 200 million acres more? It is soil erosion, by water and wind. These appalling figures have just been compiled from field studies of the Soil Erosion Service. In China, as well as here, as long as there were new lands to exploit, the farmer moved on as old lands lost their productivity. The Chinese cut the forests in the mountainous regions, not primarily for wood, but to cultivate the rich humus soils which had been centuries in the making. **Without** vegetative cover, these soils, exposed to torrential rains, washed off as liquid mud in from 3 to 20 years according to the steepness of the slopes. Incalculable quantities of soil have thus been removed from hundreds of millions of acres from the watersheds of North China by this method of suicidal agriculture, leaving the slopes sterile and barren, affording a scanty living for sheep and goats. A few temple forests, still reproducing naturally, show that man's destructiveness and not climatic changes have reduced North China to her present condition.

No connection was made by the Chinese between this destruction of hill soils and the increased sudden over-flowing of rivers in the lowlands and the silting up of canal irrigation systems. They ascribed their floods to the anger of the Gods. Nothing was done, except to build dykes and allow the silt to continue its destruction just as we in America have been disregarding the silting of our costly irrigation dams. Centuries ago the Chinese began dyking the Yellow River just as we have recently dyked the Mississippi. Periodically the dykes in China break with unthinkable loss of life and property, as in 1851 when the Yellow River changed its course 400 miles. Now the entire Yellow River has again silted until the stream is flowing above the level of the plain confined only by dykes. A heavy rainy season will bring another catastrophe. Why blame China for ignorance? We have spent altogether almost two billion dollars on the Mississippi, and are only now beginning to realize that there must be coordination between flood control on the lowlands and erosion control in the watershed areas.

In China one can see after several centuries what it means to have irrigation systems put out of commission by silt. In the Weipci, and other places, we found poverty stricken farmers struggling to farm regions subject to droughts and severe famines. These regions had formerly been rich irrigated lands. We saw where they had removed piles of silt twenty times the amount of the original excavation of the canals, before they had given up the fight. Here in the United States we have many millions of acres of good irrigation lands equally dependent upon reservoirs that are silting up at an alarming rate. When these reservoirs are out of commission, those areas will be reduced to the hazards of dry farming, droughts and famines. Regarding floods: do you realize that probably the greatest tragedy of human history happened in 1931 in China? Colonel and Anne Lindbergh told us of the flood, but we were too absorbed with our own depression at that time to understand. Silt and heavy rains were the cause of this flood. Dykes broke in the fertile lowlands where 1164 people lived to the square mile. 25,200,000 farm people, about the equivalent of the entire farming population of the United States, were driven from their homes, their farms buried under an average depth of nine feet of water. The damage was placed at two billion and the drowned at from half a million to two million, besides the vast number who died of starvation and disease which always stalk in the wake of such tragedies. Farmers will be interested to know that some of our surplus wheat was sold to China. Besides feeding millions of women and children in refugee camps, it was paid out as wages to two million men who built 3,000 miles of new dykes and by primitive methods moved a quantity of earth into these dykes equivalent to a mound of earth six feet square around the equator.

North China has long been known for her fearful dust storms. The Chinese removed nature's vegetative cover from the fine-textured soils and they began to blow. No one who has ever experienced the horrors of those storms can forget them. Last year, the same forces which wrought havoc in China initiated us to dust storms here in America. We are having a repetition now. That soil wastage by wind erosion can largely be controlled by intelligent treatment has been proved on demonstration areas of the Soil Erosion Service on the Texas panhandle. If immediate and thorough steps are not taken to check this monster of wind erosion in our own plains, its raids will continue with increasing frequency and severity, and the desert will encroach upon grazing and farm lands of the west.

May the spectacles of China arouse us as a nation to give our lands a new deal before it is too late. We have ruthlessly cut out the forests with no thought of sustained productivity. We have over-grazed our hill lands until areas, formerly a grazing paradise, are now unable to feed one head per square mile. Deprived of their vegetative cover, these lands as well as millions of acres of our sloping farm lands, are in the grip of sheet and gully erosion. Erosion is like a giant octopus, reaching out its tentacles over our lands, sucking away the moisture and fertility and leaving a wasted heritage for future generations.

Our golden age of exploitation is passing. There are no new lands to exploit. Either we must save the productivity of our lands from wastage by soil erosion, or, by neglect or lack of understanding, like the Chinese, condemn posterity to poverty and low standards of living.

(Reprinted from THE LAND TODAY AND TOMORROW, April 1935)

* * * * *

If your nose is close to the grindstone rough

And you hold it down there long enough,

In time you will say there is no such thing

As brooks that babble, or birds that sing;

These three will all your world compose--

Just Y@U -- The ST@NE

And your danged old N@SE!

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